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EXAMINER

OH, TAYLOR V

ART UNIT

PAPER NUMBER

1625

DATE MAILED: 09/24/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/070,740

Applicant(s)

KATO ET AL.

Examiner

Taylor Victor Oh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13,14,17 and 18 is/are rejected.
- 7) ☐ Claim(s) 15-16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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Final Rejection

The Status of Claims

Claims 13-18 are pending.

Claims 13 , 17, and 18 have been rejected.

Claims 14-16 have been objected.

Claim Rejections - 35 USC § 112

Applicants' argument filed 7/14/2003 have been fully considered but are not persuasive.

The rejection of claims 3, 5-6 and 8-11 has been withdrawn due to the modification made in the amendment. However, the new claim 14 has still an issue of 112, second paragraph.

Claim 14 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrase " an oligomer thereof" is recited. However, the expression does not clarify what type of the oligomer is obtained during the process. Therefore ,an appropriate correction is required.

Claim Rejections - 35 USC 102

The rejection of Claims 1-4 and 11-12 under 35 U.S.C. 102(b) as being anticipated clearly by Gallagher (WO 97/49652) has been changed to the rejection of

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Claims 13, 17, and 18 under 35 U.S.C. 103(a) as being unpatentable over Gallagher (WO 97/49652).

Claim Rejections - 35 USC 103

The rejection of Claims 5-10 under 35 U.S.C. 103(a) as being unpatentable over Gallagher (WO 97/49652) has been withdrawn due to applicants' convincing argument.

Claims 14 and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 103

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 13, 17, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gallagher (WO 97/49652).

Gallagher discloses a process of producing common reaction products resulted from depolymerization of polyesters (e.g., polypropylene terephthalate) (see page 4 ,lines 4-5), such as dimethyl terphthalate, terephthalic acid, 1,3-propanediol, and etc. (see page 5 ,lines 4-10). Furthermore, polyesters may be recycled by various methods to yield useful polymers (see page 1 ,lines 27-28). During depolymerization of polyesters, a depolymerization agent , such as methanol, water or ammonia (see page

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7, lines 23-24) may be employed within a temperature range of 140 to 350⁰ C. (see page 3, lines 20-22).

However, the instant invention differs from the reference in that the starting material is polytrimethylene terephthalate and a 1,3-propanediol containing acrolein has not greater than 0.5 wt % and a Hazen Color No. of 40 or less; and a polymer has L value of 75 and a yellow-indicating b value of 10.

With respect to polytrimethylene terephthalate as the starting material for the process, the reference does not exemplify the polytrimethylene terephthalate in the process of producing monomers. However, the Gallagher does indicate the applicability of the polypropylene terephthalate to the process, which is structurally similar to the claimed polytrimethylene terephthalate. The only difference between them is hydrogen. Therefore, it would have been obvious to the skillful artisan in the art to have motivated to use polytrimethylene terephthalate as an alternative to the polypropylene terephthalate polyester in the Gallagher process. This is because the skillful artisan in the art would expect depolymerization of polytrimethylene terephthalate to produce the monomers similar to those produced by that of the polypropylene terephthalate.

Concerning the specific impurity of acrolein in the product, the reference is silent. However, this is directed to the optimization of the known process. Therefore, the skilled artisan had desired to produce the desired product with the claimed impurity, it would have been obvious to have optimized the Gallagher process by routine experimentation.

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With respect to the values of L, b in the polymer, they do not impart patentability to a process when such values are those which would be determined by one of ordinary skill in the art in achieving optimum operation of the process. They are well understood by those of ordinary skill in the art to be result-effective variables, especially when attempting to control selectivity of a process. Therefore, it would have been obvious to the skillful artisan in the art to have motivated to optimize the values of L, b in the polymer by routine experimentation in the Gallagher process.

Gallagher does disclose the process of producing common reaction products resulted from depolymerization of many polyesters including polypropylene terephthalate and polytrimethylene terephthalate. The Gallagher does indicate the applicability of the polypropylene terephthalate to the process, which is structurally similar to the claimed polytrimethylene terephthalate. The only difference between them is hydrogen. Therefore, it would have been obvious to the skillful artisan in the art to have motivated to use polytrimethylene terephthalate as an alternative to the polypropylene terephthalate polyester in the Gallagher process. This is because the skillful artisan in the art would expect depolymerization of polytrimethylene terephthalate to produce the monomers similar to those produced by that of the polypropylene terephthalate.



ALAN L. ROTMAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1600

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to T. Victor Oh whose telephone number is (703) 305-0809. The examiner can normally be reached on 8:30 to 5:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alan Rotman can be reached on (703) 308-4698. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-4556 for regular communications and for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1235.

Raynor v Sh
9/20/03